

What is claimed is:

1. A two-stroke engine including a two-stroke engine in a portable handheld work apparatus, the two-stroke engine comprising:

a crankcase;

5 a cylinder connected to said crankcase;

said cylinder having a cylinder wall defining a cylinder bore open to said crankcase;

a piston displaceably mounted in said cylinder bore and said piston and said cylinder conjointly defining a combustion

10 chamber;

a crankshaft rotatably mounted in said crankcase;

said piston being operatively connected to said crankshaft for driving said crankshaft;

a mixture inlet in said crankcase;

15 a transfer channel for flow connecting said crankcase to said combustion chamber and said transfer channel having a first end open to said crankcase and a second end communicating with said combustion chamber;

20 a bypass channel for conducting an essentially fuel-free gas;

said bypass channel having an opening into said transfer channel at a location between said first and second ends thereof;

said transfer channel being configured as a closed channel over the length thereof in said cylinder wall;

25 a membrane valve assembly including a membrane axially inserted into said transfer channel through said first end thereof;

said membrane having an attachment section and projecting in

said transfer channel up to in front of said opening;

30           said membrane being movable between a closed position wherein said opening is closed and an open position wherein said fuel-free gas can flow through said opening and into said transfer channel;

35           said membrane valve assembly further including a membrane carrier for supporting said membrane in said open position thereof; and,

          said membrane being fixedly clamped at said attachment position thereof between said membrane carrier and said cylinder at the foot region thereof.

2. The two-stroke engine of claim 1, wherein said membrane carrier is configured as a stiff membrane carrier.

3. The two-stroke engine of claim 1, wherein said membrane includes a closing section and a connecting section interconnecting said closing section and said attachment section.

4. The two-stroke engine of claim 1, wherein said membrane carrier is bifurcated in the region of said opening so as to have fork-like prongs conjointly defining a longitudinal slot therebetween.

5. The two-stroke engine of claim 4, wherein said membrane extends beyond the free ends of said prongs.

6. The two-stroke engine of claim 4, wherein said membrane has an opening formed therein in said connecting section thereof which overlaps with said longitudinal slot in said membrane

carrier.

7. The two-stroke engine of claim 6, wherein said opening in said membrane is an elongated slot aligned in the longitudinal direction of said connecting section.

8. The two-stroke engine of claim 1, said membrane valve assembly further comprising attachment means for fixing said membrane carrier; and, said attachment means engaging through said cylinder wall from the outside.

9. The two-stroke engine of claim 8, said attachment means being an attachment screw threadably engaging said membrane carrier.

10. The two-stroke engine of claim 1, wherein said cylinder has a recess formed therein; and, said membrane carrier has an end portion facing toward said crankcase and has a projection formed thereon at said end portion for engaging said recess.

11. The two-stroke engine of claim 10, wherein said projection is configured to prevent said membrane carrier from rotating in said transfer channel.

12. The two-stroke engine of claim 10, wherein said projection is configured to be of assistance during assembly of said membrane valve assembly in said transfer channel.

13. The two-stroke engine of claim 10, wherein said projection is configured as an angled lug of said membrane carrier.